REMARKS

Claims 1-44 are pending in the application. Claims 1-44 were rejected under 35 U.S.C. 102(b) as being anticipated by Fujimoto et al. (Skew-Free Parallel Optical Transmission Systems, IEEE, pages 1822-1831, October 1998) (hereinafter "Fujimoto"). Claims 1, 6, 16, 17, 29, and 38 are being amended. Claims 45-52 are being added. No new matter is being introduced by way of the amendments or new claims.

Applicants' invention as recited in the preamble of Claim 1 is directed to a system for transferring synchronous optical network/synchronous digital hierarchy (SONET/SDH) frames between two nodes. Claim 1 as amended recites, "a demultiplexer to map SONET/SDH frames onto a plurality of data channels having an aggregate data rate equivalent to the data rate of the SONET/SDH frames." Thus, the aggregate data rate of the data channels is equivalent to the data rate of the SONET/SDH frames (i.e., input and output have equivalent data rates).

In contrast, on pages 1823 and 1824, Fujimoto discloses adding a data channel in both a group-multiplexing embodiment (Fig. 4) and non-multiplexing embodiment (Fig. 6) of an optical transmission system. Referring to the group-multiplexing embodiment of Fig. 4 and page 1823, right column, first paragraph, a new channel (i.e., 20th channel in Fig. 4) is added and filled with auxiliary data, "A bits," and the A bits are multiplexed into 19 data channels so that five multiplexed output data streams each contain an A bit. Referring to the non-multiplexing embodiment of Fig. 6 as described on page 1824, left column, a new sequence (i.e., channel) is added to the parallel data sequences to allow for some data pulses in each sequence to be moved to the new sequence to create a vacant time slot for the frame pulses, thereby allowing the bit rate of the data sequence to remain the same for high line speed systems (> 1Gbit/s).

When transmitting the data channels, therefore, because both the group-multiplexing embodiment of Fujimoto Fig. 4 and non-multiplexing embodiment of Fujimoto Fig. 6 adds an extra channel, the Fujimoto aggregate data rate of output channels increases as compared to the input channels as a result of adding the extra channels. Therefore, Applicants respectfully submit that Fujimoto does not anticipate Applicants' claim 1 as now amended ("having an aggregate data rate equivalent to the data rate of the SONET/SDH frames").

Accordingly, Applicants respectfully submit that amended claim 1 should now be allowable over Fujimoto under 35 U.S.C. 102(b).

Independent claims 6, 16, 17, 29, and 38 are being amended to include similar limitations and, therefore, should now also be allowable over Fujimoto under 35 U.S.C. 102(b).

For at least the same reasons, dependent claims 2-15, 18-28, 30-37, and 40-44 should also be allowable over Fujimoto under 35 U.S.C. 102(b).

Applicants' new claim 45 depends from Claim 2, which introduces "frame markers." New Claim 45 recites, "the encoder overwrites the frame markers on each channel with unique frame markers used for automatic skew compensation." Overwriting frame markers is disclosed in the specification as originally filed at page 7, lines 20-23; page 12, lines 8-10; and claims 22-24. Overwriting frame markers on each channel can be described as using "in-band" frame markers, whereas Fujimoto's using frame markers via the additional channels may be described as using "out-of-band" frame markers. It should be understood that the invention as recited in Claim 1 may use the SONET/SDH frame markers directly, which is useful for high-data rate systems, such as 40 Gbit/s systems. An advantage of the 'overwriting' embodiment or 'use of existing frame markers' embodiment is that no overhead bits beyond the number of input bits are inserted for use in deskewing the aggregate data rate on the parallel channels and, thus, the aggregate data rate is equivalent to the aggregate data rate of the incoming SONET/SDH frames.

New Claims 46-49 are directed to use of the unique frame markers, which is disclosed in the specification at least at page 9, lines 15-25, page 12, lines 10-12, Fig. 5, and original claims 24 and 25. New Claim 46 depends from Claim 45 and recites, "the unique frame markers [of claim 45] are different for each channel." Use of unique frame markers that are different for each channel is useful for detecting and automatically correcting for ribbon fiber patchcord crossover (i.e., chan 1->12, 2->11, 3->10, etc). Crossover is a big problem with ribbon fiber systems since such a "mis-wire" can be problematic during system integration. New Claim 47 depends from new Claim 46 and further claims a system that uses the unique frame markers to detect whether the optical fibers cause a crossover between or among the channels.

New Claim 48 depends from Claim 47 and further includes an aligner that re-orders the channels based on the unique frame markers to compensate for a crossover of optical fibers in the

ribbon patchcord. New Claim 49 depends from Claim 47 and further includes an aligner that re-orders data on the channels as a function of the unique frame markers.

New claim 50 depends from claim 2 and recites, "further including an aligner that deskews individual channels by using frame markers as delimiters to compensate for inter-channel skew that occurs due to propagation delay differences between or among the channels." Support can be found in the specification as originally filed at least on page 8, lines 3-6.

New claims 51 and 52 depend from claim 1. Claim 51 is similar to claim 27 and covers a link protection channel; claim 52 is similar to original claim 28 and covers an error detection channel. Support for each of these claims can be found in the specification as originally filed at least at page 11, line 25 through page 12, line 7 and in Fig. 2.

Applicants do not find Fujimoto discloses the inventions as recited in the new dependent claims 45-52. Accordingly, Applicants respectfully submit that these claims should be allowed over Fujimoto under 35 U.S.C. 102(b).

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims (Claims 1-52) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

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